

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

I. Status of the Claims

Claims 1-164 are pending in this application. In the Office Action mailed on September 7, 2005, claims 152-157 were restricted as being drawn to a distinct invention and are withdrawn, as stated below. Claims 1-61, 64-96, 98-105, 107-129, 131, 138-141 and 158-164 were rejected and claims 62, 63, 97, 106, 130, 132-137 and 142-151 were objected to as being dependent on a rejected base claim.

Claims 26, 29, 50, 53 and 75 have been previously amended to correct typographical errors present in the claims when originally filed. Claims 1, 21, 24-26, 29-32, 45, 46, 54-57 and 59 are currently amended. Claims 8-15, 22, 23, 36-39, 48, 49, 53, 70-72 and 88-107 have been cancelled. Claims 1-7, 16-21, 24-35, 40-47, 50-52, 54-69, 73-87, 108-151 and 158-164 remain under prosecution.

II. Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1-5, 8-15, 32-36, 39, 55, 58-61, 64, 68-73, 76, 82, 88-90, 93-96, 102, 104, 105, 107-109, 118, 121-124 and 138-141 under 35 U.S.C. § 102 as being anticipated by Nomura, et al., United States Patent No. 6,641,703. The Examiner states that Nomura teaches the use of RF plasma sputtering for cleaning the specimen and means for coating with conductive material. The Examiner further states that Nomura provides cleaning and coating under continuous vacuum conditions since all of the chambers disclosed in Nomura include vacuum pumps.

Independent claims 1, 32 and 55 have been amended to include the limitation of all operations under continuous vacuum being performed in a single process chamber. Claim 108 already contains this limitation. Claims 8-15, 36, 39, 70-72, 88-90, 93-96, 102, 104, 105 and 107 have been cancelled. All of the remaining claims identified in this rejection are based directly or indirectly dependent on these four independent claims. Claims 32 and 59 have been amended only to conform to other amendments and/or cancellations.

Nomura discloses a central transferring chamber containing a robotic arm which provides for ingress and egress of specimens to the device. Connected to the transferring chamber are a plurality of film depositing chambers separated by double layer rotating shutter mechanisms to seal off the various chambers (Col. 3, lines 26-37; Figure 1). A separate cleaning chamber is similarly provided (Col. 4, lines 1-4). A manipulating device places and withdraws the substrate in the various processing and cleaning chambers in a predetermined sequence (Col. 4, lines 1-5). Shutter plates are provided to separate each processing chamber during operation to prevent cross contamination (Col. 5, lines 19-26). While not specifically stated, each processing, cleaning and transfer chamber must be separately pumped down to the appropriate vacuum conditions.

Applicants' claims 1, 32 and 55 have been amended to include the requirement of a single process chamber to contain the operational aspects of the respective claims. Claims 108-109, 118, 121-124 and 138-141 also require a single process chamber. Nomura neither teaches nor suggests a single process chamber. In fact, the thrust of Nomura is to identify groups of related processes which can be located in discrete processing chambers. More specifically, the cleaning and deposition processes are clearly divided into separate chambers. In addition, all of the chambers are separated by the central transfer chamber in which the robotic arm is located and

through which the specimens must enter and leave the device. The Examiner apparently failed to recognize this limitation of claims 108-109, 118, 121-124 and 138-141 in the previous rejection, merely stating, with respect to claim 108: “Nomura et al. teach the entire apparatus can be considered a vacuum chamber for supporting the means for coating, means for removing and means for cleaning the processings [sic] being performed in the vacuum chamber (See Fig. 1).”

In light of Applicants’ limitation of a single process chamber, claims 1-5, 32-35, 55, 58-61, 64, 68-69, 73, 76, 82, 108-109, 118, 121-124 and 138-141 are patentable over the identified prior art.

III. Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 16, 21-25, 40, 45-49, 56, 57, 65, 77, 83, 91, 92, 110, 116 and 117 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Ameen, et al., United States Patent No. 6,143,128. Claims 16, 21, 24, 25, 40, 45-47, 56, 57, 65, 77, 83, 110, 116 and 117 have been amended to or otherwise include the limitation of the single process chamber discussed above and are patentable over Nomura and Ameen for the reasons discussed above. The remaining claims have been cancelled.

The Examiner rejected claims 6, 17-20, 41-44, 66, 78-81, 84-87, 98, 111-115, 119, 120 and 125-128 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Ameen and Chang, et al., United States Patent No. 6,434,814. All of the above-identified claims have been amended to or otherwise include the limitation of the single process chamber discussed above and are patentable over Nomura, Ameen and Chang for the reasons discussed above.

The Examiner rejected claims 26, 27, 29, 50, 51 and 53 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Mitro, et al., United States Patent No. 5,922,179. Claims

26, 27, 29, 50 and 51 have been amended to include the limitation of the single process chamber discussed above and are patentable over Nomura and Mitro for the reasons discussed above.

Claim 53 has been cancelled.

The Examiner rejected claim 28 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Mitro and Kamei, et al., United States Patent No. 5,783,055. Claim 28 has been amended to include the limitation of the single process chamber discussed above and is patentable over Nomura, Mitro and Kamei for the reasons discussed above.

The Examiner rejected claims 30 and 54 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Kobayashi, et al., United States Patent No. 5,340,460. Claims 30 and 54 have been amended include the limitation of the single process chamber discussed above and are patentable over Nomura and Kobayashi for the reasons discussed above.

The Examiner rejected claim 31 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Holland, United States Patent No. 4,311,725. Claim 31 has been amended to include the limitation of the single process chamber discussed above and is patentable over Nomura and Holland for the reasons discussed above.

The Examiner rejected claims 7, 37, 38, 67, 74, 99, 100, 101, 103, 129 and 131 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Kamei, et al., United States Patent No. 5,783,055. Claims 7, 67, 74, 129 and 131 have been amended to include the limitation of the single process chamber discussed above and are patentable over Nomura and Kamei for the reasons discussed above. The remaining claims have been cancelled.

The Examiner rejected claims 7, 37, 38, 67, 74, 99, 100, 101, 103, 129 and 131 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Kamei, et al., United States Patent No. 5,783,055. Claims 7, 67, 74, 129 and 131 have been amended to include the limitation of the

single process chamber discussed above and are patentable over Nomura and Kamei for the reasons discussed above. The remaining claims have been cancelled.

The Examiner rejected claims 158-164 under 35 U.S.C. § 103(a) as being obvious over Nomura in view of Moslehi, United States Patent No. 6,051,113 and Baldwin, et al., United States Patent No. 6,419,802. The Examiner states that Moslehi teaches utilizing a position sensor to automatically control the location of the substrate. Moslehi teaches the use of a planar, turntable-like device to rotate the specimens into an operable position. Applicants' claims 158 and 161, as amended, now require the location of the specimen at a processing position within the entirety of the three dimensional space defined by the processing chamber. Moslehi is not capable of locating the specimen outside of the XY plane defined by the turntable. The remaining claims are dependent upon claims 158 and 161. Claims 158-164 are therefore believed to be patentable over the cited art.

CONCLUSION

Based on the foregoing remarks, Applicants respectfully submit that claims 1-7, 16-21, 24-35, 40-47, 50-52, 54-69, 73-87, 108-151 and 158-164 are in condition for allowance.

Respectfully submitted,

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